

# PATENT COOPERATION TREATY

From the Japan Patent Office (INTERNATIONAL SEARCHING AUTHORITY)

# PCT

To: Agent for Applicant

Mr. Takekazu MORISHITA

Address:

Sanmoto Building, 2-18, Minamihonmachi 4-chome,  
Chuo-ku, Osaka-shi, Osaka, 541-0054 Japan

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY  
(Implementing Regulation 40 bis)  
(PCT Rule 43bis.1)

Date of mailing  
(day/month/year) 13. 11. 2005

Applicant's or agent's file reference

5430PCT

**FOR FURTHER ACTION**

See paragraph 2 below

International application No.

PCT/JP2005/013661

International filing date (day/month/year)

26. 07. 2005

Priority date (day/month/year)

06. 08. 2004

International Patent Classification (IPC) Int. Cl. H04B1/44 (2006. 01), H01P1/15 (2006. 01), H03H9/72 (2006. 01)

Applicant

Murata Manufacturing Co., Ltd.

1. This opinion contains indications relating to the following items.

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220

3. For further details, see notes to Form PCT/ISA/220

Date of completion of this opinion

08. 11. 2005

Name and mailing address of the ISA/IP

**Japan Patent Office**

1-4-3, Kasumigasaka, Chiyoda-ku, Tokyo 100-8915, Japan

IPO Examiner (Authorized officer)

Minoru YAMANAKA

Telephone No. 03-3581-1101 Ext. 3576

5W

9076



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/JP2005/013661

Box No. 1

Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purpose of international search (Rules 12.3(a) and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:



WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/JP2005/013661

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-10	YES
	Claims		NO
Inventive step (IS)	Claims	2, 4, 5, 6, 8, 10	YES
	Claims	1, 3, 7, 9	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations:

Documents

- JP 2002-111431 A (SEIKO EPSON CORPORATION) April 12, 2002, Fig. 9 (no family)
- JP 2003-152590 A (NGK SPARK PLUG CO., LTD.) May 23, 2003, whole text, whole figures (no family)
- JP 2003-142981 A (NGK SPARK PLUG CO., LTD.) May 23, 2003, Figs. 1, 3, and 10 (no family)
- JP 2003-338724 A (Matsushita Electric Industrial Co., Ltd.) November 28, 2003, Fig. 1 & US 2003-0201846 A1 & EP 1345323 A1 & EP 1505728 A2 & DE 60300311 T & CN 1445926 A

Claims 1 and 7

As described in the cited Document 2, a high-frequency composite part which comprises (A) a switch for selectively switching a signal path between an antenna terminal and a transmission-side input terminal, (B) an LC filter having an inductor and capacitors disposed between the antenna terminal and the transmission-side input terminal, (C) a surface acoustic wave filter disposed between the switch and the reception-side output terminal, and (D) a matching element having an inductor disposed between the surface acoustic wave filter and a reception-side balanced output terminal and in which the switch, the LC filter, surface acoustic wave filter, and the matching element are integrated in a laminated block having a plurality of dielectric layers laminated is described. There are the cited Documents 3 and 4 among others.

In comparison with the present invention, although (D) the matching element disposed between the surface acoustic wave filter and the reception-side balanced output terminal contains only an inductor in the cited Document, the present invention is different in that the matching element contains an inductor and capacitors.

However, in the cited Document 1, the structure in which not only an inductor, but also capacitors are connected between the balanced output terminals of a surface acoustic wave filter is described and thus, since it is obvious for a person skilled in the art to be able to set a desired complex impedance as a matching element, it is easy to obtain a structure as in the present invention by applying the technical idea described in the cited Document 1 to the technology represented by the cited Document 2. Accordingly, the invention concerning claims 1 and 7 does not have any inventive step.

Claims 2, 4, 5, 6, 8, and 10

The structure described in each claim is not described in any one of the above-described Documents in International Research Report.

Claim 3

In addition to the above-described investigation about claim 1,

in Fig. 3 of the cited Document 2, an inductor L8 (L9) of a matching element mounted on the surface of a laminated block is described. Since an inductor and conductor of an LC filter provided inside a laminated block is obvious for a person skilled in the art, the invention concerning claim 3 does not have any inventive step.

Claim 9

In addition to the above-described investigation about claims 1 and 7,

the structure of a dual-band type is described in the cited Document 2 and the invention concerning claim 9 does not have any inventive step.



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/013661

## A. CLASSIFICATION OF SUBJECT MATTER

H04B1/44 (2006.01), H01P1/15 (2006.01), H03H9/72 (2006.01)

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H04B1/44 (2006.01), H01P1/15 (2006.01), H03H9/72 (2006.01)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Jitsuyo Shinan Toroku Koho	1996-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Toroku Jitsuyo Shinan Koho	1994-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 2002-111431 A (Seiko Epson Corp.), 12 April, 2002 (12.04.02), Fig. 9 (Family: none)	1, 3, 7, 9 2, 4, 5, 6, 8, 10
Y A	JP 2003-152590 A (NGK Spark Plug Co., Ltd.), 23 May, 2003 (23.05.03), Full text; all drawings (Family: none)	1, 3, 7, 9 2, 4, 5, 6, 8, 10
A	JP 2003-142981 A (Hitachi Metals, Ltd.), 16 May, 2003 (16.05.03), Figs. 1, 3, 10 (Family: none)	1-10

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

Date of the actual completion of the international search

08 November, 2005 (08.11.05)

Date of mailing of the international search report

15 November, 2005 (15.11.05)

Name and mailing address of the ISA/

Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2005/013661

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2003-338724 A (Matsushita Electric Industrial Co., Ltd.), 28 November, 2003 (28.11.03), Fig. 1 & US 2003-0201846 A1 & EP 1345323 A1 & EP 1505728 A2 & DE 60300311 T & CN 1448926 A	1-10
A	JP 2003-209484 A (NGK Insulators, Ltd.), 25 July, 2003 (25.07.03), Fig. 1 (Family: none)	8
A	JP 2003-332167 A (TDK Corp.), 21 November, 2003 (21.11.03), Full text; all drawings (Family: none)	1-10
A	JP 10-117123 A (Murata Mfg. Co., Ltd.), 06 May, 1998 (06.05.98), Fig. 17 & US 5994980 A1 & EP 836278 A3 & DE 69714178 T & KR 275260 B	8

## A. 発明の属する分野の分類 (国際特許分類 (IPC))

Int.Cl. H04B1/44 (2006.01), H01P1/15 (2006.01), H03H9/72 (2006.01)

## B. 調査を行った分野

## 調査を行った最小限資料 (国際特許分類 (IPC))

Int.Cl. H04B1/44 (2006.01), H01P1/15 (2006.01), H03H9/72 (2006.01)

## 最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報	1922-1996年
日本国公開実用新案公報	1971-2005年
日本国実用新案登録公報	1996-2005年
日本国登録実用新案公報	1994-2005年

## 国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)

## C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
Y A	JP 2002-111431 A (セイコーエプソン株式会社) 200 2, 04, 12, 図9 (ファミリーなし)	1, 3, 7, 9 2, 4, 5, 6, 8, 10
Y A	JP 2003-152590 A (日本特殊陶業株式会社) 2003. 05, 23, 全文、全図 (ファミリーなし)	1, 3, 7, 9 2, 4, 5, 6, 8, 10
A	JP 2003-142981 A (日立金属株式会社) 2003.05. 16, 図1, 図3, 図10 (ファミリーなし)	1-10

☒ C欄の続きにも文献が列挙されている。

☐ パテントファミリーに関する図紙を参照。

## \* 引用文献のカテゴリー

「A」特に関連のある文献ではなく、一般的技術水準を示すもの  
「E」国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの  
「L」優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)  
「O」口頭による開示、使用、展示等に言及する文献  
「P」国際出願日前で、かつ優先権の主張の基礎となる出願

の日の後に公表された文献  
「T」国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの  
「X」特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの  
「Y」特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの  
「&」同一パテントファミリー文献

## 国際調査を完了した日

08. 11. 2005

## 国際調査報告の発送日

15. 11. 2005

## 国際調査機関の名称及びあて先

日本国特許庁 (ISA/JP)  
郵便番号100-8916  
東京都千代田区霞が関三丁目4番3号

## 特許庁審査官 (権限のある職員)

山中 実

SW

9076

電話番号 03-3581-1101 内線 3576

C (続き)、 関連すると認められる文献		
引用文献の カテゴリ*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求の範囲の番号
A	JP 2003-338724 A (松下電器産業株式会社) 2003.11.28, 図1 & US 2003-0201846 A1 & EP 1345323 A1 & EP 1505728 A2 & DE 60300311 T & CN 1445926 A	1-10
A	JP 2003-209484 A (日本碍子株式会社) 2003.07.25, 図1 (ファミリーなし)	8
A	JP 2003-332167 A (TDK株式会社) 2003.11.21, 全文, 全図 (ファミリーなし)	1-10
A	JP 10-117123 A (株式会社村田製作所) 1998.05.06, 図17 & US 5994980 A1 & EP 836278 A3 & DE 69714178 T & KR 275260 B	8